

SUMMARY REPORT

Client:	Needham DPW	Dates:	10/21/2019 to 10/25/2019
Contract:	Rosemary Lake Dredging		
Contractor:	Maverick Construction Co., Inc.	Inspector(s) on site:	Caroline Armstrong, Laura Krause

WORK COMPLETED THIS WEEK

- Lake drawdown continued.
- Weekly flow and turbidity monitoring conducted on Tuesday and Friday along Rosemary Brook. A summary table with the station monitoring data is attached. The station data has not shown any non-compliance issues.
- Maverick submitted Dredged Material Management and Dewatering Plan for review.
- Maverick received approval from Park and Recreation to locating the dewatering treatment system on their property on the beach area by Town pool.
- Wildlife Specialist conducted site inspection on Thursday at Rosemary Lake. Wildlife specialist report to be submitted on Friday.
- On-going equipment and material procurement.

WORK ANTICIPATED FOR NEXT WEEK

- Continue lake drawdown.
- Weekly turbidity monitoring to be conducted along Rosemary Brook. Monitoring shall continue to occur twice a week during drawdown, on Tuesdays and Fridays.
- On-going equipment procurement.

Stations 1 and 2 (2019) - Petrini Apartments (1) and West Street (2)

Station No.	Date	Velocity (ft/s)	Turbidity (NTU)	Water Depth (ft)	Sediment Depth (ft)
1	7/26/2019	1.25	6.14	-	-
	7/31/2019	1.27	7.34	-	-
	8/5/2019	1.62	5.83	0.38	1.17
	8/16/2019	1.19	7.30	0.42	-
	8/23/2019	1.33	4.01	0.33	-
	8/30/2019	1.49	9.57	0.42	-
	9/5/2019*	1.45	8.18	0.50	-
	9/16/2019	0.96	6.16	0.33	0.83-0.92
	10/4/2019*	0.82	9.44	0.33	0.83-0.92
	10/7/2019	0.90	6.13	0.33	0.83-0.92
	Baseline Average	1.23	7.01	0.38	0.95
	10/9/2019†	1.34	8.63	0.58	0.83-0.92
	10/11/2019	1.25	10.3	0.67	0.83-0.92
	10/15/2019	1.78	8.36	0.63	0.83-0.92
	10/18/2019	1.15	10.6	0.75	0.83-0.92
	10/22/2019	1.15	3.15	0.71	0.83-0.92
	10/25/2019	0.92	5.13	0.79	0.83-0.92
	Drawdown Average	1.27	7.69	0.69	0.88
2	7/26/2019	-	6.81	-	-
	7/31/2019	0.64	8.64	-	-
	8/5/2019	1.60	5.11	1.08	0.08-0.5
	8/16/2019	0.18	2.20	1.08	-
	8/23/2019	0.16	3.24	1.00	-
	8/30/2019	0.46	4.18	1.08	-
	9/5/2019*	0.38	3.72	1.08	-
	9/16/2019	0.13	3.15	1.00	1.75-2.25
	10/4/2019*	0.23	5.14	1.08	1.33-1.67
	10/7/2019	0.13	2.85	0.83	1.42-1.58
	Baseline Average	0.43	4.50	1.03	1.32
	10/9/2019†	0.41	6.07	1.42	1.17-1.42
	10/11/2019	0.38	4.26	1.42	1.42
	10/15/2019	0.35	4.69	1.33	1.25-1.33
	10/18/2019	0.31	3.80	1.50	1.25-1.42
	10/22/2019	0.30	2.04	1.46	1.25
	10/25/2019	0.31	1.81	1.46	1.25
	Drawdown Average	0.34	3.78	1.43	1.31

NOTES

1. "-" denotes parameter was not tested or could not be tested
2. "*" denotes rain occurred day before monitoring
3. "†" denoted rain occurred during monitoring
4. BETA personnel shall use a Flo-Mate2000 and Lamotte 2020wo Turbidity Meter in field.
5. On 8/16/2019, BETA used a YSI to conduct turbidity readings in the field.

Station 5 (2019) - Whalen Property

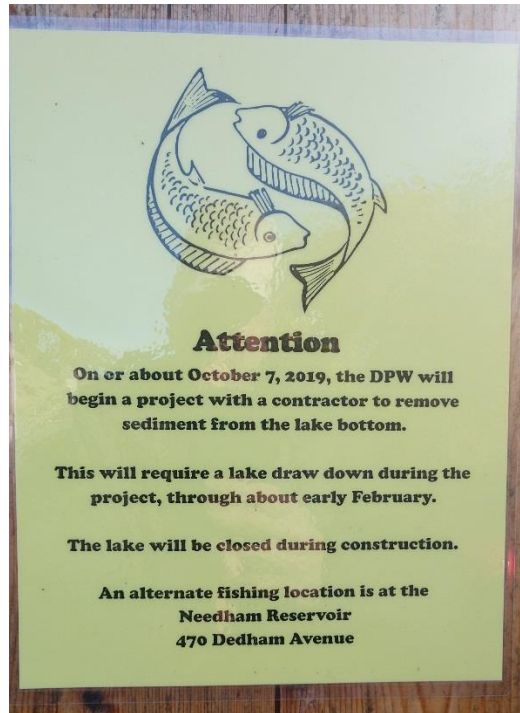
On the Whalen's property, located at 307 West Street, five sediment deposition monitoring sub-stations were set up along the southern channel of Rosemary Brook. Turbidity and velocity were measured for baseline data at each of the 5 sub-stations.

Station No.	Date	Velocity (ft/s)	Turbidity (NTU)	Water Depth (ft)	Sediment Depth (ft)*	
5.1	8/5/2019	0.04	2.76	0.75	2	
	8/16/2019	0.09	8.3	0.25	2.3	
	9/5/2019*	-	-	0.67	2.2	
	9/13/2019	-	4.6	0.5	2.3	
	10/4/2019*	0.19	21.5	0.83	1.8	
	Range at Station 5.1			0.25-0.83	1.8-2.3	
	10/9/2019	DRAWDOWN BEGAN				
	10/9/2019†	0.08	3.14	0.58	2.2	
	10/11/2019	0.16	1.91	0.67	2.2	
	10/15/2019	0.23	6.30	0.5	2.3	
	10/18/2019	0.08	4.58	0.83	1.92	
	10/22/2019	0.16	1.49	1.50	1.21	
	10/25/2019	0.11	0.25	1.21	1.58	
	Range during Drawdown at Station 5.1			0.5-1.5	1.21-2.3	
5.2	8/5/2019	0.07	4.19	0.38	1.6	
	8/16/2019	0.45	8.30	0.75	1.2	
	8/23/2019	0.29	2.68	0.67	1.3	
	8/30/2019	0.4	2.43	0.67	1.3	
	9/5/2019*	0.22	1.73	0.67	1.2	
	9/13/2019	-	2.34	0.5	1.0	
	10/4/2019*	0.06	5.68	0.5	1.3	
	Range at Station 5.2			0.38-0.75	1.0-1.6	
	10/9/2019	DRAWDOWN BEGAN				
	10/9/2019†	0.06	8.20	0.46	1.30	
	10/11/2019	0.31	3.11	0.42	1.1	
	10/15/2019	0.28	2.08	0.67	1.2	
	10/18/2019	0.28	3.55	0.75	1.2	
	10/22/2019	0.26	4.16	1.17	0.71	
	10/25/2019	0.46	1.27	0.96	0.71	
	Range during Drawdown at Station 5.2			0.42-1.17	0.71-1.3	
5.3	8/5/2019	0.04	2.95	0.98	0.6	
	8/16/2019	0.04	2.80	0.67	0.8	
	9/5/2019*	-	-	0.83	0.8	
	9/13/2019	-	2.15	0.67	0.8	
	10/4/2019*	0.16	2.76	1.0	0.7	
	Range at Station 5.3			0.67-1.0	0.6-0.8	
	10/9/2019	DRAWDOWN BEGAN				
	10/9/2019†	0.10	1.68	0.67	0.9	
	10/11/2019	0.17	1.7	0.58	1.0	
	10/15/2019	0.26	1.13	0.54	0.9	
	10/18/2019	0.21	2.13	1.00	0.66	
	10/22/2019	0.23	0.24	1.08	0.58	
	10/25/2019	0.33	0.71	1.13	0.54	
	Range during Drawdown at Station 5.3			0.54-1.13	0.54-1.0	
5.4	8/5/2019	0.05	2.77	0.96	1.1	
	8/16/2019	0.10	8.00	0.83	1.1	
	8/23/2019	0.11	4.22	0.75	1.3	
	8/30/2019	0.14	3.13	0.79	1.2	
	9/5/2019*	0.15	3.54	0.67	1.3	
	9/13/2019	-	4.29	0.67	0.8	
	10/4/2019*	0.21	2.14	0.83	1.2	
	Range at Station 5.4			0.67-0.96	0.8-1.3	
	10/9/2019	DRAWDOWN BEGAN				
	10/9/2019†	0.09	1.94	0.5	1.3	
	10/11/2019	0.38	2.39	0.58	1.0	
	10/15/2019	0.27	1.67	0.83	1.1	
	10/18/2019	0.45	2.18	1.08	0.83	
	10/22/2019	0.13	1.18	1.21	0.79	
	10/25/2019	0.09	0.95	1.17	0.46	
	Range during Drawdown at Station 5.4			0.5-1.21	0.46-1.3	
5.5	8/5/2019	0.09	3.43	0.38	1.6	
	8/16/2019	0.04	3.00	0.67	1.4	
	9/5/2019*	-	-	0.17	1.8	
	9/13/2019	-	21.0	0.17	1.6	
	10/4/2019*	-	4.72	0.33	1.5	
	Range at Station 5.5			0.17-0.67	1.4-1.8	
	10/9/2019	DRAWDOWN BEGAN				
	10/9/2019†	0.03	2.82	0.42	1.1	
	10/11/2019	0.09	2.90	0.33	1.2	
	10/15/2019	0.07	1.52	0.46	1.2	
	10/18/2019	-	15.1	0.58	1.1	
	10/22/2019	0.03	13.6	0.83	0.75	
	10/25/2019	0.03	4.5	0.79	0.92	
	Range during Drawdown at Station 5.5			0.33-0.83	0.75-1.1	
	Range Before Drawdown (includes all 5 substations)				0.17-1.0	0.6-2.3
	Range During Drawdown (includes all 5 substations)				0.33-1.5	0.46-2.3

NOTES

1. "-" denotes parameter was not tested or could not be tested
2. "***" denotes rain occurred day before monitoring
3. "†" denoted rain occurred during monitoring
4. BETA personnel shall use a Flo-Mate2000 and Lamotte 2020wo Turbidity Meter in field.
5. On 8/16/2019, BETA used a YSI to conduct turbidity readings in the field.
6. Sediment Depth Readings - the grade stake for sediment depths cannot be read underwater due to baseline turbidity and extensive aquatic vegetation growth. While the sediment depth measurements are conducted in close proximity to the stakes, the sediment thickness is not collected at the same point each time resulting in some minor variability in the sediment thickness; therefore, a sediment range was used to represent this area.

PHOTOS



Signage at Rosemary Pool



Temporary electric service pole



**Staging Area – Drawdown progress on Tuesday (13 days after initiation of drawdown).
(10/18/2019)**



View east of staging area



View west of staging area

**Staging Area – Drawdown progress on Friday (16 days after initiation of drawdown).
(10/25/2019)**



Station 5.1



Station 5.2

Station 5.1 and 5.2 (Whalen Property) – Edge of Bank shown. Turbidity, velocity, and sediment depth readings taken on Tuesday (13 days after initiation of drawdown). (10/22/19)



Station 5.3 (Whalen Property) – View downstream from Station 5.3 at Whalen property. Turbidity, velocity, and sediment depth readings taken on Tuesday (13 days after initiation of drawdown). (10/22/19)



View from Bank



View from Brook

Station 5.4 (Whalen Property) – Edge of Bank shown. Turbidity, velocity, and sediment depth readings taken on Tuesday (13 days after initiation of drawdown). (10/22/19)



Station 5.4 (Whalen Property) – Edge of Bank shown. Turbidity, velocity, and sediment depth readings taken on Friday (16 days after initiation of drawdown). (10/25/19)



Station 5.4 (Whalen Property) – Edge of Bank shown. Less vegetation than Summer months. (10/25/19)



Station 5.5 (Whalen Property) – Turbidity, velocity, and sediment depth readings taken on Tuesday (13 days after initiation of drawdown). (10/22/19)